



Functional Nanobiomaterials for Immunoengineering and Immunotherapy

- Speaker:** Dr. Jaeyun Kim
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- When:** 2.00pm on Friday 12th of January 2018
- Where:** B2.74, Trinity Biomedical Sciences Institute

Failures of the native immune system to eradicate tumors are mostly due to the immunosuppressive environments created by the tumor. In order to generate robust and durable antitumor adaptive immune responses, it is crucial to overcome the immunosuppressive environments that affect to the immune cells. In this presentation I will discuss on the design and application of functional nanobiomaterials including 3D scaffold composed of injectable microparticles, hierarchically porous scaffold, and other functional nanoparticles to immune activation and modulation *in vivo*. Those nanobiomaterials could act as delivery vehicles of cancer antigen and adjuvant, and as building blocks to form cellular microenvironment in the body for the manipulation of host dendritic cells and macrophages. The appropriate design and engineering of functional nanobiomaterials could have the potential to treat cancer and inflammatory disease in the future.



Biography: Jaeyun Kim is an Associate Professor in School of Chemical Engineering, and Samsung Advanced Institute of Health Sciences & Technology at Sungkyunkwan University (SKKU), South Korea, where he heads the Nano-Bio-Materials Laboratory. His research focuses on the development of functional materials based on multidisciplinary strategies to treat cancer, autoimmune disease, and inflammation-associated diseases. He is particularly interested in cancer vaccine and immunotherapy, anti-oxidant inorganic nanoparticles, stimuli-responsive on-demand delivery, and hybrid hydrogels with extraordinary mechano-physical characteristics.